## **BUREAU OF INDIAN STANDARDS**

## Program of Work

## **ETD 21 : Electric Welding Equipment**

Scope: To prepare standards on the construction, performance, testing and safety requirements for

electric welding equipment and accessories for both arc and resistance type

Liaison: IEC TC-26 (O): Electric welding

### **Published Standards**

1	Identical under dual numbering  Identical under dual numbering  Identical under dual numbering  Identical under dual numbering
BS 635 : 1979, iec doc 16 central office 19-1-11  2	Identical under dual numbering  Identical under dual numbering  Identical under dual
doc 16 central office   19-1-11     2   IS 16593 (Part 1) :   2024   60974-1:2021   60974-1:2021   2023   EC 60974-2 : 2019   IEC 60974-3 : 2019   IEC 60974-4 : 2016   IEC 60974-5 : 2019   IEC 609	numbering  Identical under dual numbering  Identical under dual
19-1-11   2   IS 16593 (Part 1) :   Arc Welding Equipment Part 1:   Welding Power Sources   -   Welding Power Sources   -	numbering  Identical under dual numbering  Identical under dual
2	numbering  Identical under dual numbering  Identical under dual
2024   Welding Power Sources   60974-1:2021   60974-1:2021     Arc Welding Equipment Part 2:	numbering  Identical under dual numbering  Identical under dual
60974-1:2021  3	Identical under dual numbering  Identical under dual
3	numbering  Identical under dual
3	numbering  Identical under dual
Liquid Cooling Systems (First   Revision)	numbering  Identical under dual
IEC 60974-2 : 2019   Revision)   IEC 60974-2 : 2019     4	Identical under dual
IEC 60974-2 : 2019   Arc welding equipment Part 3: Arc 2023   Striking and stabilizing devices   IEC 60974-3: 2019   (First Revision)   Striking and stabilizing devices   (First Revision)   IEC 60974-3: 2019   Arc welding equipment: Part 4 2022   Periodic inspection and testing   IEC 60974-4 : 2016   IEC 60974-4 : 2016   Arc welding equipment Part 5: 2023   Wire feeders (First Revision)   Use 60974-5 : 2019   Arc welding equipment Part 5: 2023   Wire feeders (First Revision)   IEC 60974-5 : 2019   Arc welding equipment Part 5: 2023   Wire feeders (First Revision)   IEC 60974-5 : 2019   IE	
4 IS 16593 (Part 3): Arc welding equipment Part 3: Arc striking and stabilizing devices  IEC 60974-3: 2019 IEC 60974-3: 2019  5 IS 16593 (Part 4): Arc welding equipment: Part 4 2022 Periodic inspection and testing  IEC 60974-4: 2016  6 IS 16593 (Part 5): Arc welding equipment Part 5: 2023 Wire feeders (First Revision)  IEC 60974-5: 2019	
2023   Striking and Stabilizing devices   (First Revision)     5	
IEC 60974-3: 2019   (First Revision)     5	numbering
IEC 60974-3: 2019         5       IS 16593 (Part 4): 2022 Periodic inspection and testing         IEC 60974-4: 2016 IEC 60974-4: 2016       Feriodic inspection and testing         6       IS 16593 (Part 5): 2023 Wire feeders (First Revision)         IEC 60974-5: 2019	
5 IS 16593 (Part 4): Arc welding equipment: Part 4 2022 Periodic inspection and testing  IEC 60974-4: 2016  6 IS 16593 (Part 5): Arc welding equipment Part 5: 2023 Wire feeders (First Revision)  IEC 60974-5: 2019	
2022 Periodic inspection and testing  IEC 60974-4: 2016  6 IS 16593 (Part 5): Arc welding equipment Part 5: 2023 Wire feeders (First Revision)  IEC 60974-5: 2019	
IEC 60974-4 : 2016 IEC 60974-4 : 2016  6 IS 16593 (Part 5) : Arc welding equipment Part 5: 2023 Wire feeders (First Revision) IEC 60974-5 : 2019	Identical under dual
IEC 60974-4 : 2016  6 IS 16593 (Part 5) : Arc welding equipment Part 5:  2023 Wire feeders (First Revision)  IEC 60974-5 : 2019	numbering
6 IS 16593 (Part 5): Arc welding equipment Part 5: 2023 Wire feeders (First Revision) IEC 60974-5: 2019	
2023 Wire feeders (First Revision) IEC 60974-5: 2019	
IEC 60974-5 : 2019	Identical under dual
l I	numbering
IEC 60974-5 : 2019	
7 IS 16593 (Part 6): Arc welding equipment: Part 6	Identical under dual
2022 Limited duty equipment	numbering
IEC 60974-6 : 2015	
IEC 60974-6 : 2015	
8 IS 16593 (Part 7): Arc welding equipment - Part 7:	Identical under dual
2022 Torches	numbering
IEC 60974-7 : 2019	
IEC 60974-7 : 2019	
9 IS 16593 (Part 8): Arc welding equipment Part 8: Gas	Identical under dual
2023 consoles for welding and plasma	numbering
IEC 60974-8: 2021 cutting systems (First Revision)	
IEC 60974-8: 2021	
10 IS 16593 (Part 9): Arc welding equipment: Part 9	Identical under dual

1	2021	Installation and use		1	numbering
	IEC 60974-9 : 2018	mistanation and use			numbering
	IEC 60974-9 : 2018				
11	IS 16593 (Part 10):	Arc welding equipment Part 10:		-	Identical under dual
	2023	Electromagnetic compatibility			numbering
	IEC 60974-10 : 2020	EMC requirements (First Revision)			
	IEC 60974-10:				
	2020				
12	IS 16593 (Part 11):	Arc welding equipment Part 11:		-	Identical under dual
	2023	Electrode holders			numbering
	IEC 60974-11 : 2021 IEC 60974-11 :				
	2021				
13	IS 16593 (Part 12):	Arc Welding Equipment Part 12		_	Identical under dual
10	2024	Coupling Devices for Welding			numbering
	60974-12:2022	Cables (First Revision)			
	60974-12:2022	, ,			
14	IS 16593 (Part 13):	Arc welding equipment Part 13:		-	Identical under dual
	2022	Welding current return clamp			numbering
	IEC 60974-13 : 2021				
	IEC 60974-13:				
1.5	2021 IS 16502 (Part 14)	Ana walding a minus out Dout 14			Identical and a day
15	IS 16593 (Part 14): 2024	Arc welding equipment Part 14:  Calibration validation and		-	Identical under dual
	60974-14:2018	consistency testing			numbering
	60974-14:2018	consistency testing			
16	IS 17816 (Part 1):	Resistance welding equipment:		_	Identical under dual
	2022	Part 1 Safety requirements for			numbering
	IEC 62135-1:2015	design manufacture and installation			
	IEC 62135-1:2015				
17		Resistance welding equipment Part		-	Identical under dual
	2022	2: Electromagnetic compatibility			numbering
	IEC 62135-2 : 2020	EMC requirements			
18	IEC 62135-2 : 2020				Identical under dual
18	IS 18483 (Part 1) : 2024	Electric welding equipment Assessment of restrictions related		-	numbering
	62822-1:2016	to human exposure to			numbering
	62822-1:2016	electromagnetic fields 0 Hz to 300			
		GHz Part 1: Product family			
		standard			
19	IS 18483 (Part 2):	Electric welding equipment		=	Identical under dual
	2024	Assessment of restrictions related			numbering
	62822-2:2016	to human Exposure to			
	62822-2:2016	electromagnetic fields 0 Hz to 300			
		GHz Part 2: Arc welding			
20	IS 1851 : 1997	equipment Single operator type arc welding	March, 2017		Modified/Technically
20	ISO 700	transformers - Specification	iviaicii, 2017	_	Equivalent
	Reviewed In: 2017	dansionners opecification			2qui vaiciit
	ISO 700 : 1982, BS				
L	638 (Part 10): 1990				<u> </u>
21	IS 2635 : 1997	DC electric welding generators -	March, 2022	-	Modified/Technically
	Reviewed In: 2022	Specification (Third Revision)			Equivalent
	ISO 700 : 1982, BS				
<u></u>	638 (Part 10) : 1990	77	T 1 0000		) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (
22	IS 2641: 1989	Electric welding accessories -	July, 2020	=	Modified/Technically
	Reviewed In: 2020 BS 638: 1984 IEC	Specification (First Revision)			Equivalent
	Document 26				
	Document 20				

	(Secretariat) 36 :			1	1 1
	1981 Draft				
23	IS 4559 : 1993	Single operator rectifier type dc arc		-	Modified/Technically
	ISO 700	welding power source -			Equivalent
	Reviewed In: 2019	Specification (Second Revision)			
	ISO 700:1982				
24	IS 4804 (Part 1):	Specification for resistance	July, 2020	-	Modified/Technically
	1968	welding equipment: Part 1 single -			Equivalent
	Reviewed In: 2020	Phase transformers			
	Draft IS0				
	Recommendation				
	No. 974, B.S.				
	3065-1959, Bull. No.				
25	16. 1966.	Caraification for mariatana	I1 2020	1	To dia anno
25	IS 4804 (Part 2) : 1968	Specification for resistance	July, 2020	1	Indigenous
	Reviewed In : 2020	welding equipment: Part 2 single - Phase rocker - Arm spot welding			
	Reviewed III . 2020	machines			
26	IS 4804 (Part 3):	Specification for resistance	July, 2020	1	Indigenous
	1969	welding equipment: Part 3 single -	July, 2020	1	margenous
	Reviewed In: 2020	Phase spot and projection welding			
		machines			
27	IS 4804 (Part 4):	Specification for resistance	July, 2020	-	Indigenous
	1973	welding equipment: Part 4 single			
	Reviewed In: 2020	phase stationary, press type roll -			
		Spot and seam welding machines			
28	IS 6008 : 1989	Arc welding power source, single		-	Modified/Technically
	ISO 700:1082	operator rectifier type, AC and DC			Equivalent
	Reviewed In: 2019	- Specification (First Revision)			
	a) ISO 700-1982				
	Power sources for				
	manual metal arc				
	welding with covered electrodes and for				
	the TIG				
29	IS 7931 (Part 1):	Specification for automatic and		_	Modified/Technically
	1975	semi - Automatic welding			Equivalent
	Reviewed In: 2019	equipment with self - Adjusting			
	IS0 Dot TA-76/72/	arcs (Migimag Processes): Part 1			
	E, Document No. 7	DC welding generator power			
	1/ 42369, NEMA	source			
	EW-l-1971				
30	IS 7931 (Part 2):	Specification for automatic and		1	Modified/Technically
	1975	semi - Automatic welding			Equivalent
		equipment with self-adjusting arcs			
	ISO Dot TA-76/72/	(Mig/mag Processes): Part 2			
	E, Document No. 7 1/42369, NEMA	<u> </u>			
	EW-l-1971	source			
31	IS 7931 (Part 3):	Specification for automatic and		1	Modified/Technically
	1975	semi - Automatic welding		'	Equivalent
	Reviewed In: 2019	equipment with self - Adjusting			-1
	ISO Dot TA-76/72/	arcs (Mig/mag Processes): Part 3			
	E, Document No. 7				
	1/ 42369 , NEMA	equipment			
	EW-l-1971				
32	IS 8804 : 1993	Plugs, sockets, terminal		-	Modified/Technically
	IEC 501	arrangements and welding cable			Equivalent
	Reviewed In: 2019	connectors for manual welding			
•	•	!		•	

	IEC Publication 501 (1975), BS 638: 1966	equipment - Specification (First Revision)		
33	IS 9604 : 1994	Tungsten - Inertgas (Tig) welding	-	Modified/Technically
	Reviewed In: 2019	equipment - Specification (First		Equivalent
	Dot: ISO/TC 44.%X	Revision)		
	(Secretariat -20 1975			

### **Standards under Development**

Projects Approved					
SI. No.	SI. No. Doc No. Title				
	No Records Found				

Preliminary Draft Standards			
SI. No.	SI. No. Doc No. Title		
No Records Found			

Drafts Standards in WC Stage				
SI. No.	SI. No. Doc No. Title			
	No Records Found			

Draft Standards Completed WC Stage			
SI. No.	SI. No. Doc No. Title		
No Records Found			

Finalized Draft Indian Standard			
SI. No.	SI. No. Doc No. Title		
No Records Found			

Finalized Draft Indian Standards under Print		
SI. No.	Doc No.	Title
1	ETD 21 (23999)	Electric welding equipment Assessment of restrictions related to human Exposure to electromagnetic fields 0 Hz to 300 GHz Part 3 Resistance welding equipment

#### Total Published Standards:30 Total Standards Under development:1

## **Aspect Wise Report**

Product: 20
Code of Practices: 4
Methods of Test: 1
Terminology: 0
Dimensions: 0
System Standard: 0
Safety Standard: 0
Others: 8

Service Specification: 0 Process Specification: 0 Unclassified: 0

# Annexure-I :List of Indian Standards Withdrawn/Superseded

SI. No.	IS No. & Year	Title
No Records Found		

## **Annexure-II :List of Indian Product Standards**

SI. No.	IS No. & Year	Title
1	IS 13339 : 1992	Multi - Operator type arc welding transformers - Specification
	Reviewed In: 2017 BS 635	
	: 1979, iec doc 16 central	
	office 19-1-11	
2	IS 16593 (Part 1): 2024	Arc Welding Equipment Part 1 Welding Power Sources
	60974-1:2021	
3	IS 16593 (Part 6): 2022	Arc welding equipment Part 6 Limited duty equipment
	IEC 60974-6 : 2015	
	ISO/TS 20224-5:2020	
4	IS 16593 (Part 7): 2022	Arc welding equipment - Part 7 Torches
	IEC 60974-7: 2019	
5	IS 16593 (Part 12): 2024	Arc Welding Equipment Part 12 Coupling Devices for Welding Cables First Revision
	60974-12:2022	
6	IS 17816 (Part 1): 2022	Resistance welding equipment Part 1 Safety requirements for design manufacture and installation
	IEC 62135-1 : 2015	
	ISO 3377-1:2011	
7	IS 1851 : 1997	Single operator type arc welding transformers - Specification
	ISO 700	
	Reviewed In: 2017 ISO 700	
	: 1982, BS 638 (Part 10):	
	1990	
8	IS 2635 : 1997	DC electric welding generators - Specification Third Revision
	Reviewed In : 2022 ISO 700	
	: 1982, BS 638 (Part 10) :	
	1990	
9	IS 2641 : 1989	Electric welding accessories - Specification First Revision
	Reviewed In : 2020 BS 638	
	: 1984 IEC Document 26	
10	(Secretariat) 36 : 1981 Draft	
10	IS 4559 : 1993	Single operator rectifier type dc arc welding power source - Specification Second Revision
	ISO 700	
	Reviewed In: 2019 ISO	
11	700:1982 IS 4804 (Part 1) : 1968	Specification for resistance welding equipment Part 1 single - Phase transformers
111	Reviewed In : 2020 Draft	Specification for resistance weiging equipment Part 1 single - Phase transformers
	ISO Recommendation No.	
	974, B.S. 3065-1959, Bull.	
	No. 16. 1966.	
12	IS 4804 (Part 2) : 1968	Specification for resistance welding equipment Part 2 single - Phase rocker - Arm spot welding
12	Reviewed In : 2020	machines
13	IS 4804 (Part 3): 1969	Specification for resistance welding equipment Part 3 single - Phase spot and projection welding
	Reviewed In : 2020	machines
14	IS 4804 (Part 4): 1973	Specification for resistance welding equipment Part 4 single phase stationary press type roll - Spot
	Reviewed In : 2020	and seam welding machines
15	IS 6008 : 1989	Arc welding power source single operator rectifier type AC and DC - Specification First Revision
	ISO 700:1082	or and a second of the second
	Reviewed In : 2019 a) ISO	
	700-1982 Power sources for	
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	manual metal arc welding	
	with covered electrodes and	
	for the TIG	
16	IS 7931 (Part 1): 1975	Specification for automatic and semi - Automatic welding equipment with self - Adjusting arcs
	Reviewed In: 2019 ISO Dot	Migimag Processes Part 1 DC welding generator power source
	TA-76/72/E, Document	
	No. 7 I/ 42369 , NEMA EW-	
	1-1971	
17	IS 7931 (Part 2): 1975	Specification for automatic and semi - Automatic welding equipment with self-adjusting arcs Mig
	Reviewed In: 2019 ISO Dot	mag Processes Part 2 transformer - Rectifier power source
	TA-76/72/E, Document	
	No. 7 I/ 42369 , NEMA EW-	
	1-1971	
18	IS 7931 (Part 3): 1975	Specification for automatic and semi - Automatic welding equipment with self - Adjusting arcs
	Reviewed In: 2019 ISO Dot	Mig mag Processes Part 3 welding gun and ancillary equipment
	TA-76/72/E, Document	
	No. 7 I/ 42369 , NEMA EW-	
	1-1971	
19	IS 8804 : 1993	Plugs sockets terminal arrangements and welding cable connectors for manual welding equipment
	IEC 501	- Specification First Revision
	Reviewed In: 2019 IEC	
	Publication 501 (1975),	
	BS 638 : 1966	
20	IS 9604 : 1994	Tungsten - Inertgas Tig welding equipment - Specification First Revision
	Reviewed In: 2019 Dot:	
	ISO/TC 44.%X (Secretariat	
	-20 1975	